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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,073	09/17/2003	Edward J. Crawford	FIS920000188US2	5068

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EXAMINER	
TRAN, BINH X	

ART UNIT	PAPER NUMBER
1792	

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05/19/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/664,073	CRAWFORD, EDWARD J.	
	Examiner	Art Unit	
	Binh X. Tran	1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 February 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16,34,35,38 and 39* is/are pending in the application.

4a) Of the above claim(s) *9* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8, 10-16, 34-35, 38-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-8, 10-16, 34-35, 38-39 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claim 1, the examiner is unable to find the proper support for the negative limitation “in a manner so that a conductive residue from said ion-milling process does not contaminate said organic dielectric sufficient to electrically disrupt said circuit".

In claim 1, the examiner is unable to find the support for the new negative limitation “thereby precluding a contamination of said organic dielectric that would be sufficient to be disruptive to said circuit that normally would result if said ion milling were perform on said conductor without first forming said void"

Claims 2-8, 10-11, 16, 34-35, 38-39 are rejected under 35 U.S.C. 112, first paragraph because they directly or indirectly depend on claim 1.

In claim 12, the examiner is unable to find the proper support in the specification for the new negative limitation “so that conductive material from said ion-milling process

does not leave a conductive residue in said organic dielectric material as a result of said ion-milling process that would be sufficient to disrupt said circuit".

Claims 13 are rejected under 35 U.S.C. 112, first paragraph because it depends on claim 12.

In claim 14, the examiner is unable to find the proper support in the specification for the negative limitation "so that conductive residue will not remain in said organic dielectric from said ion-milling process that would provide a sufficient contamination to disrupt an operation of said electronic device".

Claim 15 is rejected under 35 U.S.C. 112, first paragraph because it depends on claim 14.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-8, 10-16, 34-35 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-2, 4-23 of U.S. Patent No. 6,653,240 in view of Marino (US 6,010,918).

Claim 1 of the present invention differ from the claim of US 6,653,240 by further discloses providing a void space in said organic dielectric adjacent to said conductor, thereby precluding a contamination of said organic dielectric that would be sufficient to be disruptive to said circuit that normally would result if said ion milling were perform on said conductor without first forming said void". Marino teaches to etch organic dielectric material (110) (polyimide) through a window to selectively remove organic dielectric (110) adjacent to said conductor (120) to provide a void space (112) without having residues formed therein (See Fig 12-13, col. 5 lines 14-15, col. 7 lines 35-55). It would have been obvious to one having ordinary skill in the art, at the time of invention, to modify US Patent 6,653,240 in view of Marino by provide a void space in organic layer adjacent to the conductor because it helps to remove excess material to create a well (or void) having an undercut structure below that gate hole.

Response to Arguments

5. Respect to the 35 USC 112, 1st paragraph rejection, the applicants state that the following description in line 20 of page 1 through line 3 of page 2, line 17-21 of page 3, line 9-15 of page 6 of the specification is sufficient to overcome the 35 USC 112, 1st paragraph rejection. Specifically, the applicants states "one having ordinary skill in the art would very clearly understand from the above-recited lines, particularly in combination with the void space indicated by the figures, that the selective removal of

the organic dielectric adjacent to the portion of the conductor targetted to receive the ion milling processing solves the problem for ion milling of conductors embedded in organic dielectric layers. Clearly, because the void space has no organic dielectric, there are no charged ions impregnating any organic dielectric in this void space". The examiner disagrees. The examiner recognizes that applicants discloses "With the invention, the problem in the prior art is overcome in which ion milling creates charged ions that impregnate the organic dielectric to defeat electrical isolation. The invention also overcomes the problem in the prior art of electrically conductive metal residue from ion milling being deposited on the sidewalls around the milled area, defeating electrical isolation." (emphasis added line 17-21 in page 3). First, it is noted that the specification clearly states that applicant's invention overcome the problem of the prior art in which "charged ions" that impregnate the organic dielectric. The examiner interprets the phrase "charged ions" in the specification does not have the same meaning with the term "contaminate", "contamination" or "residue" in the claims. It is possible to have "contamination" or "residue" that is not a "charged ion" material. Second, the specification clearly states the current invention over come the problem in the prior art of electrically conductive metal residue from ion milling being deposited on the sidewalls around the milled area". It is noted that the specification discloses ion milling process is performed on the conductor. Therefore, the examiner interprets that the applicants discloses that the current invention over come the problem in the prior art of electrically conductive metal residue from ion milling being deposited on the sidewalls of the conductor. There is no support in the specification which excludes residue or

contaminant from deposit on the organic dielectric layer. Third, Figure 3B and 3C of current application show residue/contaminant is deposit on the sidewall of the organic dielectric layer (38). Thus, the examiner still maintains that applicants does not have proper support the limitations as discussed above under 35 USC 112, 1st paragraph.

Respect to the previous double patent rejection, the applicants argue that the examiner fails to provide a prior art reference suggest "the void formed adjacent to the conductor". This argument is moot in of the new ground of rejection. The new cited prior art (Marino US 6,010,918) discloses the void formed adjacent to the conductor.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Binh X. Tran whose telephone number is (571)272-1469. The examiner can normally be reached on Monday-Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on (571) 272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Binh X Tran
Primary Examiner
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